

**From:** Cope.Ben@epamail.epa.gov  
**Sent time:** 08/18/2011 12:09:56 PM  
**To:** LUT Agnes <LUT.Agnes@deq.state.or.us>  
**Subject:** RE: Preparation for Sovereign Technical Team Water Quality Workshop

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Agnes, here you go:

Regarding the Temperature TMDL, how can the STT effort inform, move forward the Temperature TMDL effort? **I don't know, honestly.**

Would it help to advocate for the RBMS10 model to be used for the STT work? **I don't think the model was the fundamental problem for the TMDL. The problem was that we were saying fed dams exceed WQS. The model was just a convenient debate point for people to throw around and confuse the issue.**

One of our temp issues is to move towards a "natural seasonal thermal pattern", has that been identified for the mainstem? **Our work did identify changes in the seasonal pattern, yes.**

How do we expect the mainstem to attain temperature criteria? Mainly through reservoir control? Spill? Tribs? (you already said tribs don't play a big role, but I wanted to put it into the mix considering the Snakes input) **Frankly, I'm not sure we expect that it can meet WQS. Grand Coulee has a big impact on the pattern of temperature downstream, and it's a huge structure that defies practical measures to undo the impact. We identified one promising option to cool temps by 1-2 deg C below Coulee, which was to switch from powerhouse 3 to the older powerhouse 1 and 2, which release water from a different elevation. But that would reverse only a fraction of the impact.**

Ben Cope, Environmental Engineer  
Office of Environmental Assessment  
EPA Region 10  
Seattle, Washington  
206-553-1442

▼ LUT Agnes ---08/18/2011 11:28:41 AM---Ben A couple of thoughts / questions.

From: LUT Agnes <LUT.Agnes@deq.state.or.us>  
To: Ben Cope/R10/USEPA/US@EPA  
Cc: Marylou Soscia/R10/USEPA/US@EPA  
Date: 08/18/2011 11:28 AM  
Subject: RE: Preparation for Sovereign Technical Team Water Quality Workshop

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Ben

A couple of thoughts / questions.

Regarding the Temperature TMDL, how can the STT effort inform, move forward the Temperature TMDL effort?  
Would it help to advocate for the RBMS10 model to be used for the STT work?  
One of our temp issues is to move towards a "natural seasonal thermal pattern", has that been identified for the mainstem?  
How do we expect the mainstem to attain temperature criteria? Mainly through reservoir control? Spill? Tribs? (you already said tribs don't play a big role, but I wanted to put it into the mix considering the Snakes input)

I'd like to advocate future Treaty management of the mainstem to eventually meet temperature criteria, both numeric and qualitative, as we may envision it per a future temp TMDL.

Thank you for your thoughts and response .....

Agnes-

Agnes Lut  
ODEQ - Water Quality  
503-229-5247

-----Original Message-----  
From: Cope.Ben@epamail.epa.gov [<mailto:Cope.Ben@epamail.epa.gov>]  
Sent: Wednesday, August 17, 2011 11:55 AM  
To: LUT Agnes  
Subject: RE: Preparation for Sovereign Technical Team Water Quality Workshop

For Tribs, should we advocate for a daily input? What would be the maximum averaged "steady" state input that would suffice, monthly? And then the Snake would be input with the same methods as used for the Columbia mainstem.

I don't know enough about the assessment questions to answer this. It sounds like by "steady state" they mean "long term average". In general, the tribs are not that big a factor so monthly (long term) average may suffice for all questions. But the Snake may be a big enough factor to matter, so how it is handled depends on what you are doing. If you are running a multi-year analysis like we did with RBM10, then it makes more sense to use distinct monthlies (varying calendar-based time series) instead of long term averages for the Snake.

Time-step, do you advocate for one verses another for this purpose (hourly vs. daily). RBM10 daily output is a mean daily output? Or median? Or geo-mean?

Need to determine whether we care about daily maxes or if daily averages are sufficient for the questions being asked. I'd use the longest time step feasible - smaller piles of output data to manage, share, etc.

Ben Cope, Environmental Engineer  
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From: LUT Agnes <LUT.Agnes@deq.state.or.us>  
To: Ben Cope/R10/USEPA/US@EPA  
Date: 08/17/2011 11:29 AM  
Subject: RE: Preparation for Sovereign Technical Team Water Quality Workshop

That's the word ACOE and BPA are using....Strawdog... yeah, you heard me.

Right, to add or not to add toxics. This is a big point for Mary Lou. BiOp is even wishy-washy on the topic.

For Tribs, should we advocate for a daily input? What would be the maximum averaged "steady" state input that would suffice, monthly? And then the Snake would be input with the same methods as used for the Columbia mainstem.

Time-step, do you advocate for one verses another for this purpose (hourly vs. daily). RBM10 daily output is a mean daily output? Or median? Or geo-mean?

Thanks, Ben.

Agnes-

Agnes Lut  
ODEQ - Water Quality  
503-229-5247

-----Original Message-----  
From: Cope.Ben@epamail.epa.gov [<mailto:Cope.Ben@epamail.epa.gov>]  
Sent: Wednesday, August 17, 2011 11:24 AM  
To: LUT Agnes  
Subject: RE: Preparation for Sovereign Technical Team Water Quality Workshop

"Strawdog?"

Pollutants - anything beyond TDG and temperature? The Spokane Arm of Lake Roosevelt has DO issues, but I'm not aware of any other DO issues on the Columbia. Toxics...I have no idea...

Tribes are usually just a boundary input, e.g., daily flows and constituents entering mainstem, so not sure what steady state means in this context. For temperature, the tribes are pretty small impact on the mainstem until the Snake comes in. The mighty Columbia...

Time step: we were using daily for the temperature TMDL modeling simulations using RBM10. That model allows you to pick a timestep of choice. CE-QUAL-W2 is set up differently and calculates its own time step based on Courant constraints...often fractions of an hour....then a choice is made on what to output (often hourly).

-BC

Ben Cope, Environmental Engineer  
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Seattle, Washington  
206-553-1442

From: LUT Agnes <LUT.Agnes@deq.state.or.us>  
To: Ben Cope/R10/USEPA/US@EPA  
Date: 08/17/2011 11:13 AM  
Subject: RE: Preparation for Sovereign Technical Team Water  
Quality  
Workshop

No, this is the planning meeting to get the strawdog for the 31st.  
Any thoughts regarding a strawdog, concerns for pollutants, etc... They  
are saying they will use steady state for the tribes, but it seems like  
the tribes could influence the mainstream quite a bit, so I'm not sure this  
is the best approach. Also, what time step would be appropriate for the  
proposed model? Etc... your thoughts...

Great, glad to hear you will be there the 31st.

Agnes-

Agnes Lut  
ODEQ - Water Quality  
503-229-5247

-----Original Message-----  
From: Cope.Ben@epamail.epa.gov [<mailto:Cope.Ben@epamail.epa.gov>]  
Sent: Wednesday, August 17, 2011 11:11 AM  
To: LUT Agnes  
Subject: RE: Preparation for Sovereign Technical Team Water Quality  
Workshop

Agnes -

If this is the Aug 31 meeting, then yes I am attending. -BC

Ben Cope, Environmental Engineer  
Office of Environmental Assessment  
EPA Region 10  
Seattle, Washington  
206-553-1442

From: LUT Agnes <LUT.Agnes@deq.state.or.us>  
To: Ben Cope/R10/USEPA/US@EPA  
Date: 08/17/2011 10:59 AM  
Subject: RE: Preparation for Sovereign Technical  
Team Water  
Quality  
Workshop

Hi Ben  
Are you planning to call into this meeting?

If not, then maybe we can talk before the Monday call in.

Agnes-

Agnes Lut  
ODEQ - Water Quality  
503-229-5247

From: Terry Buchholz [<mailto:terry@integratedwatersolutions.net>]  
Sent: Wednesday, August 17, 2011 7:08 AM  
To: 'Terry Buchholz'; Rea, Matt; McGill, Margaret A NWW; Dickerson,  
Peter D NWP; Duffe, Bruce J NWP; Jim Britton;  
scott.e.english@usace.army.mil; Rick Pendergrass; Nancy Stephan BPA;  
'Gregory J Fuhrer'; Agnes LUT; Soscia.Marylou@epamail.epa.gov;  
jack.t.camp@usace.army.mil; 'Keith Holliday'; 'Derek Sandison'  
Cc: 'Juul, Steve T NWW'; LUT Agnes  
Subject: RE: Preparation for Sovereign Technical Team Water Quality  
Workshop

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Attached, please find a preliminary draft agenda for the STT Water Quality Workshop, a spreadsheet highlighting the water quality models are available for within the Treaty Review project footprint and a document that gives more information on each of the models listed. Please review these before our conference call on Monday.

Here are some preliminary thoughts from Margie McGill concerning the "Strawdog" Water Quality modeling and evaluation:

Now that we have an understanding of what water quality models are available for the Treaty Review project footprint, we need to map out an appropriate strategy for the water quality impact assessment for CRT. Here are some of the assumptions that should help us develop our approach. WE will be discussing this during our conference call next Monday. We would like to have a "strawdog" strategy developed before the August 31st STT WQ Workshop.

1. The impact assessment will begin in November of 2011 but go through September of 2012. We should have WQ models up and running by March of 2012 to meet this schedule.
2. Daily data is being created for the 70 years of record. This is the lowest level being considered (not hourly).
3. Currently we have not pursued changing steady reaches to unsteady reaches. If this is needed for WQ modeling, it would need to be scoped and developed.
4. The major changes in Post-2024 conditions occur in the reservoirs. We have to show Canada we have effectively used our storage space before we request space from them. Therefore we need to be able to determine WQ impacts in the reservoirs as well as in the river reaches.
5. There are a few alternatives that will require TDG modeling through the river reaches as the alternatives attempt to significantly increase flow through the system in the spring.
6. WQ is an impact assessment and does not need to meet the modeling needs laid out in the BiOp. If we can develop a modeling strategy to meet our needs and the BiOp without over-extending our budget, we should pursue it.

To help us further the WQ work plan, I think we need the following.

1. A map that simply shows where the WQ models are that you all identified. I want it to be clear where we do and do not have models. Again, there really is not much time to develop models unless we have existing data to support the development (bathymetry).
2. Consideration of how much time it takes to run the models. If we have a bunch of models we identified to run, is it even possible for a team to run them in the time period we identified (March - Sept). Again, there will be between 6 to 16 alternative that may require water quality modeling. This could be very labor intensive if we have too many models.

We look forward to discussing this next Monday.

Thank you,

Terry Buchholz, PE, CWRE

Treaty Review STT Faciliator

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-----Original Appointment-----

From: Terry Buchholz [<mailto:terry@integratedwatersolutions.net>]  
Sent: Wednesday, August 03, 2011 8:47 AM  
To: Terry Buchholz; Rea, Matt; McGill, Margaret A NWW; Dickerson, Peter D NWP; Duffe, Bruce J NWP; JIm Britton ([james.l.britton@usace.army.mil](mailto:james.l.britton@usace.army.mil)); scott.e.english@usace.army.mil; Rick Pendergrass ([rpendergrass@bpa.gov](mailto:rpendergrass@bpa.gov)); Nancy Stephan BPA; 'Gregory J Fuhrer'; Agnes LUT; Soscia.Marylou@epamail.epa.gov; ([jack.t.camp@usace.army.mil](mailto:jack.t.camp@usace.army.mil)); 'Keith Holliday'; 'Derek Sandison'  
Cc: Juul, Steve T NWW; LUT Agnes  
Subject: Preparation for Sovereign Technical Team Water Quality Workshop  
When: Monday, August 22, 2011 9:00 AM-11:00 AM (GMT-08:00) Pacific Time (US & Canada).  
Where: Portland District Corps and Conference Call

Meeting to prepare for STT Water Quality Workshop on August 31st, 2011.

There will be more information to follow to prepare for this planning session.

Participating by Web Meeting

You must login to the Web site listed below and call the toll-free phone bridge number to hear the discussion.

Toll-free phone bridge information for all meetings:

Number: (b) (6) Access code: (b) (6) Security  
Password: (b) (6)

Web Meeting login information for all meetings:

Web site: <http://www.webmeeting.att.com> Meeting number:  
(b) (6) Code: (b) (6)